



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,656	09/16/2005	Toshikazu Yabe	18733/00180	7656
24731	7590	08/16/2007	EXAMINER	
SIDLEY AUSTIN LLP			HURLEY, KEVIN	
717 NORTH HARWOOD			ART UNIT	
SUITE 3400			PAPER NUMBER	
DALLAS, TX 75201			3611	
			MAIL DATE	DELIVERY MODE
			08/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/549,656

Applicant(s)

YABE ET AL.

Examiner

Kevin Hurley

Art Unit

3611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claim 1, 3-7, 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toshiyuki JP 2002-308125 in view of Fumio et al. JP 2003-011828.

Toshiyuki discloses an electric power steering device to transmit an auxiliary power by an electric motor to steering mechanism of a vehicle via speed reduction gear mechanism 4, the speed reduction gear mechanism comprising:

a driven gear, that is a resin gear, having a resin part with gear teeth formed on the outer peripheral surface thereof and;

Art Unit: 3611

a drive gear that meshes with the driven gear;

and grease present at least between the driven gear and the drive gear, wherein the resin part of the resin gear is composed of a resin composition having a polyamide resin

the grease is composed of a base oil formed mainly of at least one oil selected from mineral oil, poly α -olefin oil, and alkyl polyphenyl ether, a thickener, and 3 to 10% by weight of a wax having a melting point or softening point in the range of from 70 to 130°C.

Toshiyuki fails to disclose the resin part of the resin gear being containing 10 to 50% by weight of glass fiber having a diameter in the range from 5 to 9 μm .

Fumio et al. teaches the use of glass fiber as reinforcement in the resin in the amount of 5-10% by weight, to raise the mechanical strength of the gear.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add glass fiber to the resin, in view of Fumio et al., in order to raise the mechanical strength of the gear.

It is noted that the diameter and length of the glass fibers would be chosen as a result of routine experimentation depending on the desired strength of the gear, versus it's resilience.

“[I]t is not inventive to discover the optimum or workable ranges by routine experimentation.” In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

4. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toshiyuki as applied to claim 1 above, and further in view of Masaaki JP 07-237266.

Toshiyuki, as modified above, discloses the claimed invention except for an adhesive layer composed of a silane coupling agent having either one of epoxy group or amino group on

Art Unit: 3611

one end thereof is provided between the metal core and the resin part of the resin gear.

Masaaki discloses the use of a silane coupling agent with an epoxy agent between the resin part and the metallic part of a gear in order to increase the strength of the bond between the two.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Toshiyuki by using a silane coupling agent with an epoxy agent between the resin part and the metallic part of the gear in order to increase the strength of the bond between the two.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Hurley whose telephone number is 571-272-6646. The examiner can normally be reached on Monday-Friday 9:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on 571-272-6651. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin Hurley/
Primary Examiner
Art Unit 3611

August 14, 2007